

S. Y. B. SC. (BIOTECHNOLOGY) SEM – IV (2010 COURSE)
: SUMMER - 2018

SUBJECT : MOLECULAR BIOLOGY – II

Day : **Friday**
Date: **06/04/2018**

S-2018-1070

Time: **10.00 am to 01.00 pm**
Max Marks. 80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the sections to be written on **SEPARATE** answer sheets.

SECTION – I

- Q.1** **A)** Answer any **ONE** of the following: **(06)**
- a)** Describe the steps involved in the synthesis of lagging strand.
 - b)** How does single base change error occurs in DNA? Explain mismatch repair mechanism.
- B)** Answer any **TWO** of the following: **(10)**
- a)** How DNA is repaired by using recombination mechanism?
 - b)** Why priming reaction is required to initiate DNA synthesis?
 - c)** Explain the process of termination of DNA replication in *E – coli*.
- Q.2** Write short notes on any **FOUR** of the following : **(16)**
- a)** Replication fork
 - b)** Telomere replication
 - c)** Proof reading mechanism
 - d)** Role of Dna B and Dna G in DNA replication
 - e)** Base Excision repair

SECTION – II

- Q.3** **A)** Answer any **ONE** of the following: **(06)**
- a)** Explain the role of ribosome in protein synthesis.
 - b)** Explain the general mechanism of splicing of introns.
- B)** Answer any **TWO** of the following: **(10)**
- a)** Explain Lac operon
 - b)** Mention the reactions involved in initiating m RNA synthesis in eukaryotic system.
 - c)** Explain the role of Rho factor in termination of RNA.
- Q.4** Answer any **FOUR** of the following: **(16)**
- a)** Explain post transcriptional modification of messenger RNA
 - b)** Differentiate between prokaryotic and Eukaryotic translation.
 - c)** What are polysomes?
 - d)** What is the role of RNA polymerase in transcription?
 - e)** What are promoter and enhancer sequences?
- Q.5** Write short notes on any **FOUR** of the following : **(16)**
- a)** Prokaryotic promoter
 - b)** Transcription bubble
 - c)** Shine Dalgarno sequence
 - d)** TATA Binding protein
 - e)** Stop Codons

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